atile gases, hydrogen, helium, neon, argon, xenon, and krypton—we might thus occasionally interchange a molecule or two with Mars or Jupiter—but these interesting possibilities should not be heralded as the meteorology of the future. Meteorologists are not studying these finer but the ordinary grosser phenomena of the earth's atmosphere.

At the present time there is absolutely no evidence that the moon or planets have any appreciable influence on the earth, except the well-known ocean tides and the astronomical perturbations due to their gravitational attraction. Of course, they give us a little light in the night-time, but that would scarcely be spoken of as a powerful influence.

OSCILLATIONS OF THE LAKES AND THE CLIMATE IN ARID REGIONS.

The recent reports from Salt Lake City show that the great Salt Lake is now at a lower level than has previously been recorded, by nearly one foot. During the past three years the water available for keeping the lake up to its average height has been materially diminished, that is to say, there has been less rain and snow than the normal, and more sunshine and wind. Similar experiences are reported from India and the Pacific. Thus we learn from a contemporary newspaper that Lieut. O. Olufsen, of the Danish army, well known by his explorations in central Asia and on the Pamir Plateau, says that within the past few years the quantity of water in the streams and wells of Turkestan and Bokhara has notably diminished. This is particularly true of the Syr Daria and the Amu Daria. The Lake Yechil Kul has shrunk from a circumference of 120 miles to one of 40. A somewhat similar story comes from South Africa, where Lake Ngami has dried up greatly within the past ten years, and the natives have been obliged to retire from it.

All these observations do not indicate a permanent change in the condition of the atmosphere. These lakes have all gone through many similar dry periods before this, some of them have dried up very much since they were first formed, but these changes require immense geological epochs. The climatological pendulum swings to and fro very slowly. The annual variations of mean temperature, wind and rain, sunshine and evaporation are rapid and large but they oscillate about the same mean values that obtained a thousand years ago.

EROSION DUE TO HEAVY RAINS AND STEEP GRADES.

The study of physiography teaches us that most of the mountain ranges and hills are simply the outlasting harder portions of the soil and rocks that have not yet been worn down by the steady action of the rains, the frosts, and the rivers. The greatest amount of denudation has taken place in regions of heavy winter freezes and abundant spring and summer rains, but the deepest and most precipitous canyons occur in regions that have but little frost and only occasional but heavy local rains. In these regions a comparatively small watershed of very steep gradient carries a mass of water downward with such force as to do far more erosion and other damage than if the same rain were spread over a longer period of time. Perhaps this principle is well illustrated in the following extract from the Examiner of San Francisco, Cal., November 27. The account there given may be exaggerated, but in general terms it well presents the nature of a phenomenon which is frequently occurring in our arid regions.

On Tuesday, November 20, at Santa Cruz Island, there was a terrific rain. For several hours the water supply poured from the sky, the fall amounting to a cloudburst on the tops of the island mountains. From the harbor a long canyon or valley runs 6 miles up into the mountains, draining an immense watershed and having a fall of about 2,000 feet. A day or two of drizzling rain started the little creek, but it soon became a powerful torrent. Immense volumes of water rushed pell mell down the bed, washing brush, driftwood, and even trees out to sea. The noise was something frightful. It was a low, deep roar from the crashing together of great rocks.

The sloop lay a quarter of a mile off shore in water that was practically fresh. The debris from the island was all around her and the creek waters could be traced far past her. Captain Julius rowed ashore a day later. The beach had receded 100 feet from its former position. The canyon was cleared to bedrock of all movable things.

MIRAGE OVER LAKE MICHIGAN.

A beautiful mirage was witnessed at or near Chicago, Ill., on December 20, 1900, when the observers, looking eastward, saw perhaps 30 or 40 miles of distant lake shore elevated so as to become visible.

The view was elevated above the horizon and was enveloped in a pale blue light. It formed the lower lining of a maze of darkness that hung over the lake shortly after noon and was visible for more than an hour. It faded from view by slowly vanishing from both ends until nothing but the blackened smoke that had floated out from the city's smokestacks remained to be seen.

It appeared in view as slowly and as majestically as it vanished. There was a dark streak between it and the horizon. Prof. H. J. Cox says:

The atmospheric conditions were perfect for such a mirage; there was scarcely a breeze astir; the lake was smooth and the warm rays of the sun slanted down under the bank of smoke.

METEOROLOGY AT THE PARIS CONGRESS OF 1900.

In the Meteorologische Zeitschrift for November, 1900, the editor published a full account of the proceedings of the general Meteorological Congress called by the authorities of the International Exposition, and also of the permanent meteorological committee appointed by the International Congress of Meteorology and its subcommittees. Meteorologists from all parts of the world were in attendance on the congress, and its proceedings were quite interesting. Among the papers worthy of mention were those by Paulsen, on the spectrum of the aurora; Hildebrandsson, on the work of the cloud committee; Sprung, on automatic apparatus for measuring the height and velocity of the clouds; Edelstam, on actinometric measurements made by Angström and himself on Teneriffe with the new Angström pyrheliometer; Algue, on microseismic observations during storms.

In general, however, the attention of the congress was mainly given to the meteorology of the upper regions of the atmosphere. And this was right. The interest that every meteorologist must have in the knowledge of the processes going on in the upper strata of the air was stimulated most thoroughly, and the results described by the untiring and successful students in this field of research called forth, not only expressions of satisfaction and admiration, but gave occasion, even in wider circles, to the mature resolution to actively cooperate with those who have done the pioneer work in the exploration of the upper regions. All the meteorologists best known for their work with balloons and kites (Rotch, Teisserenc de Bort, Assmann, and Hergesell) communicated some account of their arrangements and results. A copy of the magnificent work, in three great volumes, Scientific Balloon Ascensions, by Assmann and Berson, was presented by Assmann. The newest extensions of meteorological services were presented in papers by Rona, on the work of Konkoly and the new Meteorological Observatory in O'Gyalla, Austria; by Nakamura, on the meteorological service of Japan; by Ballif, on the meteorological service in Bosnia and Herzegovina; Chaves, on the meteorological service of the Azores. Weather shooting or hail shooting was reported on for Italy, Hungary, and Austria, and it was agreed that this widespread craze must be utilized as a means of obtaining data for the study of hailstorms. No special subcommittees were appointed by the congress, but the subcommittees of the permanent committee seem to have acted as such, thereby giving rise to some confusion as to the spheres of these two distinct bodies.